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CH-8233/RC-231  
LUDGER HEILIGER ET AL  
MICROGEL-CONTAINING THERMOPLASTIC ELASTOMER  
COMPOSITION



**Figure 1: Illustration of the composition from Example 4 (MG/TPE-U); not contrasted with  $\text{OsO}_4$ , magnification 20,000-fold**

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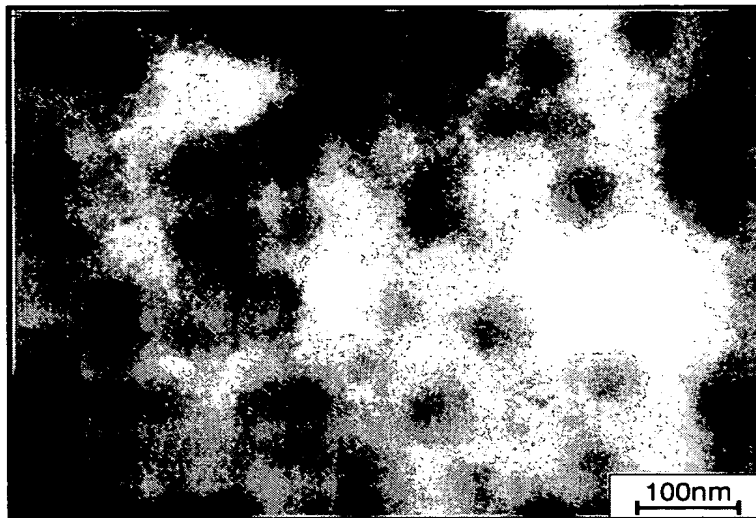
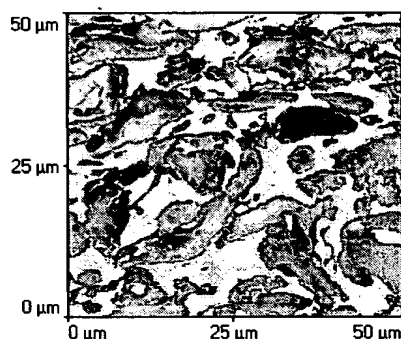
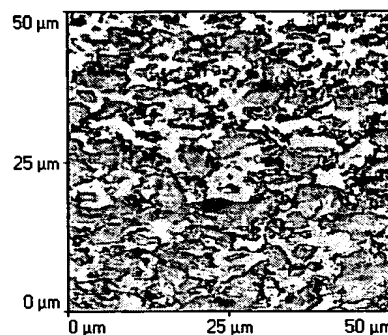


Figure 2: Illustration of a composition from Example 1 (MG/PP); not contrasted with  $\text{OsO}_4$ ; magnification 30,000-fold

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a) without phase mediator



a) with phase mediator

Figure 3: AFM photograph of a dynamically vulcanized TPV from Example 5 (NBR/PA) (70:30) with and without phase mediator

It can be clearly seen that in the examples according to the invention above the microgel domains, i.e. the domains of the elastomer phase, are orders of magnitude smaller and more uniform than the elastomer domains, formed by dynamic vulcanization, of conventional dynamically vulcanized TPVs, both with ( $> 5$  to  $30\text{ }\mu\text{m}$ ) and without a phase mediator ( $> 10$  to  $35\text{ }\mu\text{m}$ , Fig. 3)

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Storage of the test specimens in hot air at various temperatures

Storage at  
RT:

Material M1



Material M7



Storage at  
130 °C:

Material M1

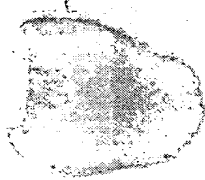


Material M7



Storage at  
150 °C:

Material M1

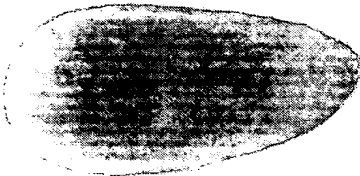


Material M7



Storage at  
180 °C:

Material M1



Material M7



Figure 4: Storage tests on test specimens